New Species of *Gibsoniothamnus* (Bignoniaceae: Schlegelieae)

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ABSTRACT. Three new species of *Gibsoniothamnus* L. O. Williams, *G. grandiflorus*, *G. stellatus*, and *G. versicolor*, are described as new.

Gibsoniothamnus L. O. Williams is a genus of about 14 species of epiphytic shrubs, variously classified in the Bignoniaceae or Scrophulariaceae. This unusual group of Central American epiphytes is most closely related to the neotropical genus *Schlegelia* Miquel, currently classified in the Bignoniaceae tribe Schlegelieae. Undescribed species have been filed with both Scrophulariaceae and Bignoniaceae, so a collaborative project was begun to identify and describe the new species. Collaborative work was cut short by the untimely death of Al Gentry. The following species were discovered during the study.

Gibsoniothamnus grandiflorus A. Gentry & Barringer, sp. nov. TYPE: Panama. Veraguas: ridge of Cordillera de Tute along trail to Cerro Tute, ca. 3–4 km past Escuela Agrícola Alto de Piedra, just W of Santa Fe, 8°32′N, 81°07′W, 20 Mar. 1982, *Knapp & Kress 4389* (holotype, MO; isotype, PMA). Figure 1.

Species floribus grandis, a *Gibsoniothamno truncato* lobis calyce triangulatis longe acuminatis, pedicellis longioribus differt.

Epiphytic shrub to 3 m tall; bark gray-brown; stems angled, glabrous, to 5 mm diam., with raised leaf bases at the nodes. Leaves opposite, subequal to equal across the node; petioles 5–14 mm long, glabrous or sparsely pubescent; blade ovate to obovate or lanceolate, 6.5–14.5 cm long, 3.0–6.2 cm wide, coriaceous, glabrous, shiny above, the base cuneate, the apex acuminate, secondary veins 3 or 4 per side, impressed above, prominent below, glandular pits in fields between the veins below, pocket domatia occasionally present in the axils of the midvein and secondary veins toward the base of the blade. Flowers in congested, axillary panicles; primary peduncle to 1.5 cm long; bracts narrowly triangulate, 3–5 mm long, pubescent; the secondary peduncles to 7 mm long; bracteoles to 3 mm long, ovate, acuminate; pedicels 2.5–3.5 cm long, thicker above; calyx funnelform, the tube 5–9 mm long, red to red-purple, the lobes narrowly triangulate, unequal, 7–13 mm long, long-acuminate, glabrous to minutely ciliate; corolla cylindric, slightly ampliate above, 3.5–4.0 cm long, 6–7 mm diam., reddish pink to red, fleshy, the upper lobes rounded, 3–4 mm long and wide, the lateral lobes rounded to ligulate, 4–5 mm long, 4 mm wide, the median lobe ligulate, 4–6 mm long, 3–4 mm wide; stamens attached 6–9 mm from the base of the corolla tube, filaments 20–26 mm long, glabrous; staminode 10–20 mm long, filiform, the apex clavate; pistil glabrous, the ovary globose to oblate, 2–3 mm diam., the style 30 mm long, the stigma slightly bilobed. Berry globose, 8–10 mm diam., green.

This species is most easily distinguished by its large, slightly ampliate flowers. It appears to be most closely related to *Gibsoniothamnus truncatus* and *G. latidentatus*. It differs from *G. truncatus* by its larger, ampliate corollas, pedicels more than 2 cm long, and narrowly triangulate calyx lobes. It differs from *G. latidentatus* by its corollas more than 3 cm long, reddish calyx, short staminode, and calyx lobes 7–13 mm long. This species has an interesting disjunct distribution: the plants from Panamá, collected along the El Llano–Cartí road, have narrower, more acuminate leaves than those from Coclé, mostly collected on Cerro Tute.

Paratypes. PANAMA. **Coclé**: vicinity of Escuela Agrícola Alto de Piedra, 3200–3400 ft., 3 Apr. 1980, *Antonio 3961* (MO); about 16 km NW of Santa Fe on descent to Río Caloveborita, 650 m, 4 Sep. 1975, *Dressler 5142* (MO); near third branch of Río Santa María, 10–14 km NW of Santa Fe, 650–750 m, 10–11 Oct. 1975, *Dressler 5171* (MO); shoulder of Cerro Tute, 25 May 1977, *Folsom & Edwards 3345* (MO); ridge of Cerro Tute, along trail to Cerro Tute, 3–4 km past Escuela Agrícola Alto de Piedra, 8°32′N, 81°07′W, 800–1400 m, 20 Mar. 1982, *Knapp & Kress 4363* (MO); Cerro Tute, E slopes, 1 km beyond Escuela Agrícola Alto Piedra

Figure 1. *Gibsoniothamnus grandiflorus* A. Gentry & Barringer. —Habit (*Knapp & Kress 4360*, MO). Scale bar = 2 cm.

above Santa Fe, 900–1200 m, 14 May 1981, *Sytsma & Andersson 4655* (MO, PMA). **Panamá**: El Llano–Cartí road, 10 km N of Pan Am Highway, 340 m, 15 Feb. 1975, *Gentry & Mori 14216* (F, MO); 6–7 mi. from PanAmerican highway on El Llano–Cartí road, 9°12′N, 79°00′W, 400 m, 26 Feb. 1982, *Knapp & Mallet 3829* (MO, PMA); 8.2 mi. from Panamerican highway on the El Llano–Cartí rd., 9°14′N, 79°00′W, 450 m, 24 Mar. 1982, *Knapp & Hufi 4415* (MO, PMA); road between El Llano and Cartí–Tupile road, 12 mi. above Pan American highway, 200–500 m, 30 Mar. 1973, *Liesner 1321* (F, MO, NY, PMA); El Llano–Cartí rd., 10.8 km from interamerican highway, 1100–1200 ft., 27 Dec. 1974, *Mori, Kallunki & Hansen 4121* (MO); El Llano–Cartí road, 21.6 mi. from Inter-American highway, 350 m, 20 Mar. 1975, *Mori & Kallunki 5104* (MO, PMA); El Llano–Cartí road, 9 mi. from Pan American highway, 350–400 m, 28 Apr. 1981, *Sytsma 4146* (NY).

Gibsoniothamnus stellatus A. Gentry & Barringer, sp. nov. TYPE: Panama. Chiriquí: Cerro Colorado, along road to copper mine 33.1 km beyond the bridge over the Río San Felix, 13.1 km beyond turnoff to Escopeta, 1400 m, 15 July 1976, *Croat 37200* (holotype, MO; isotype, MO). Figure 2.

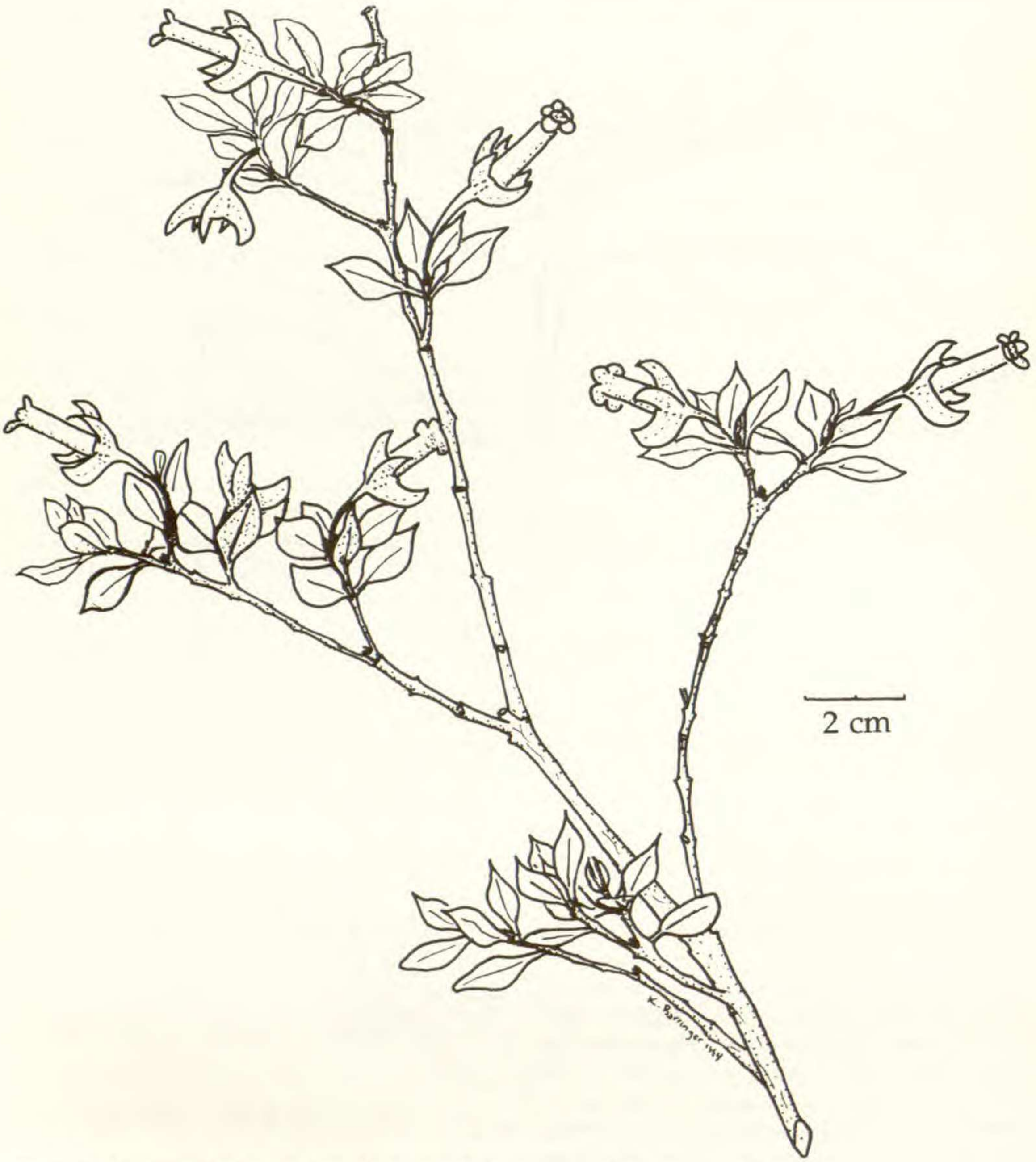

Figure 2. *Gibsoniothamnus stellatus* A. Gentry & Barringer. —Habit (*Croat 37200*, MO).

A *Gibsoniothamno alato* foliis minoribus, petiolis 3–5 mm longis, tubis calyce 6–8 mm longis, staminibus 17–18 mm longis differt.

Epiphytic shrub to 1.5 m tall; bark pale gray-brown; stems angled, glabrous, the leafy portions to 2 mm diam., the older portions with raised leaf bases. Leaves opposite, unequal to subequal; petioles 3–5 mm long, glabrous, unwinged; lamina ovate-lanceolate, coriaceous, glabrous, gland-dotted, the base cuneate, the apex acuminate to acute, the midvein impressed above, prominent below, the secondary veins not impressed above, prominent below, 2–3 per side, domatia occasionally found on the underside of the lamina near the base, the larger leaves 15–25 mm long, 9–16 mm wide, the smaller leaves 5–12 mm long, 4–8 mm wide. Flowers borne near the tips of the branches, solitary, axillary; pedicels 10–12 mm long, thick above, bracteolate at base, glabrous; calyx campanulate, purple, the tube 6–8 mm long, the lobes 8–9 mm long, triangulate, the wings broad, 3–4 mm wide; corolla tubular, white,

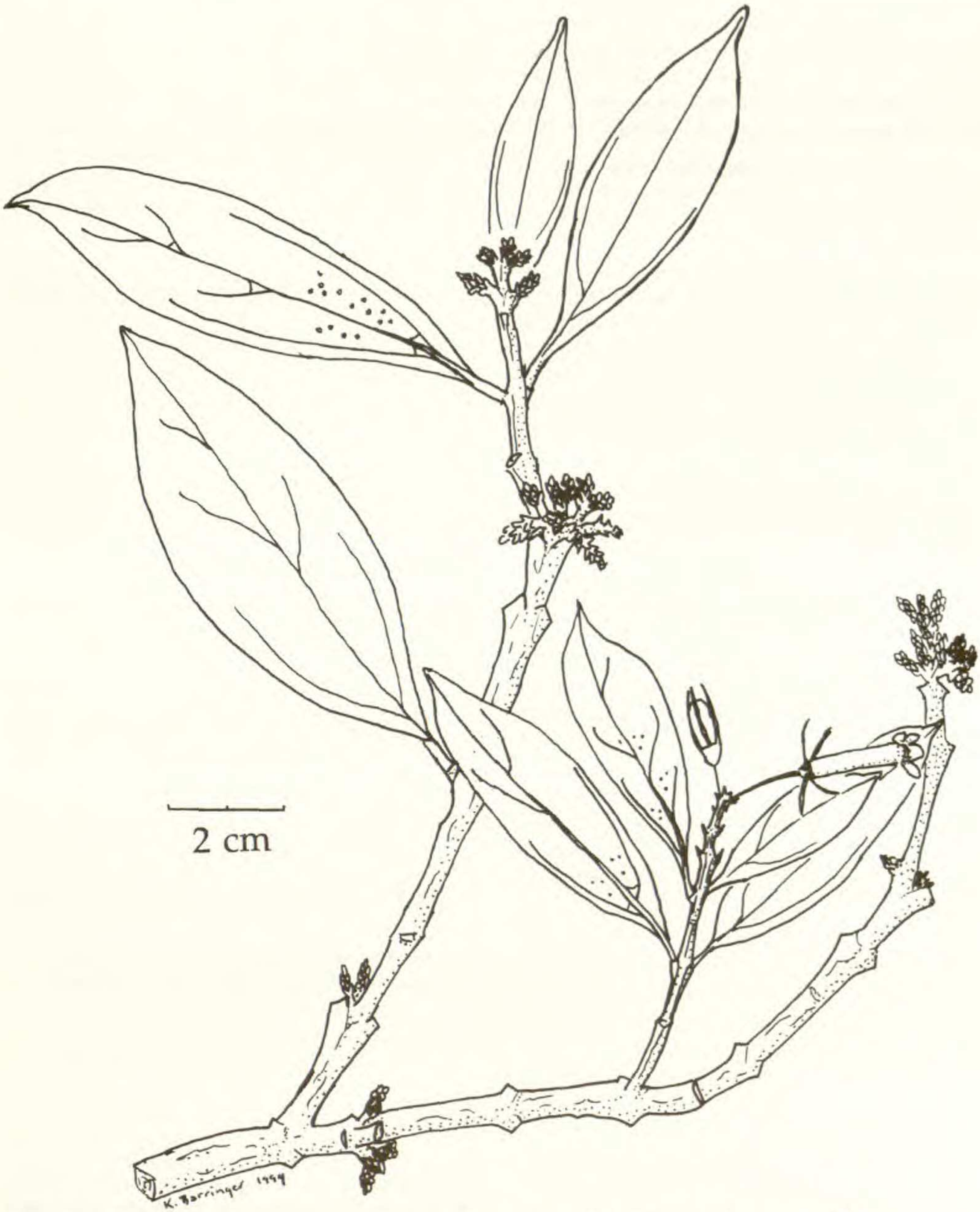

Figure 3. *Gibsoniothamnus versicolor* A. Gentry & Barringer. —Habit (*Herrera et al. 1022*, BKL).

2.0–2.5 cm long, 4–5 mm diam., the upper and lateral lobes rounded to ligulate, 3–4 mm long and wide, the margin ciliate, the median lobe ligulate, 3 mm long, 1.5–2.0 mm wide; stamens attached 5 mm above the base of the corolla tube, with a ring of trichomes at the point of insertion, the filaments 17–18 mm long; staminode 5–6 mm long; pistil glabrous, the ovary globose, 1.5 mm diam., the style 14 mm long, the stigma capitate. Immature berries globose, green.

This species is distinguished by its small leaves and large, winged calyx lobes. It appears to be most closely related to *Gibsoniothamnus alatus*, native

to southern Darién and adjacent Chocó, because both species have strongly alate calyces and white corollas. It can be distinguished from that species by its smaller leaves, calyx tube more than 5 mm long, and stamens less than 18 mm long.

Paratypes. PANAMA. **Bocas del Toro:** region of Cerro Colorado, 7.5 mi. from Chami camp, 8°35′N, 81°45′W, 1220–1250 m, 13 Apr. 1986, *McPherson 8882* (MO, NY, PMA).

Gibsoniothamnus versicolor A. Gentry & Barringer, sp. nov. TYPE: Panama. San Blas: Playon Chico, Río Ukupseni, Campamento Neba Dummat hasta las cascada, 50–100 m, 9°15′N, 78°15′W, 30 Oct. 1991, *H. Herrera, J. Morris & J. Mojica 1022* (holotype, MO; isotypes, BKL, PMA). Figure 3.

A *Gibsoniothamno allenii* foliis majoribus anguste ellipticis, petiolis ciliatis, floribus paniculatis, lobis calyce majoribus differt.

Epiphytic shrub or climber; bark gray-brown; stems angled, glabrous to sparsely pilose, with raised leaf bases at the nodes. Leaves opposite, equal to subequal; petioles 5–12 mm long, pilose, unwinged; blade narrowly elliptic, 4–11 cm long, 1.7–4.0 cm wide, subcoriaceous, dull olive gray above, tannish below, sparsely pilose above, with scattered trichomes along the midvein below, strongly lepidote-glandular below, domatia absent. Flowers in terminal panicles; pedicel 2–3 cm long, sparsely pilose, slightly thickened above; calyx campanulate, pink to mauve, the tube 3–5 mm long, the lobes nearly linear, 7–12 (–15 in fruit) mm long, porrect, then reflexed after anthesis; corolla tubular, white or reddish violet, 2 cm long, 4 mm wide at the base, 3 mm wide near the apex, the lobes ovate to round, 1.5–3.0 mm long; stamens inserted 4–5 mm from the base of the corolla tube, with a basal ring of trichomes, the filaments 1 cm long; staminode 5 mm long, filiform; ovary depressed-globose, 2 mm long, glabrous, the style 15 mm long, the stigma subcapitate. Young fruit green, subglobose, 6 mm long.

This species differs from *Gibsoniothamnus alatus* A. Gentry, the only other species in this genus known from eastern Panama, by its linear, unwinged calyx lobes. It appears to be most closely related to *G. allenii* A. Gentry, which grows in the hills around El Valle. This species differs from *G. allenii* by its longer calyx lobes, 7–15 mm long, and its larger, subcoriaceous leaves. D'Arcy (1979) listed *Croat 27281* under *G. cornutus* (Donnell Smith) A. Gentry, but that species differs by its short, triangulate calyx lobes and coriaceous leaves.

Paratype. PANAMA. **Darién**: headwaters of the Río Tuquesa, gold mining camp of Tyler Kitteridge, ca. 2 air km from the continental divide, 26 Aug. 1974, *Croat 27281* (MO).

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Literature Cited

D'Arcy, W. G. 1979. Scrophulariaceae. *In:* R. E. Woodson & Shery, Flora of Panama. Ann. Missouri Bot. Gard. 77: 173–274. [*Gibsoniothamnus* pp. 220–227.]